SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT I, TAKANORI FUJII, a citizen
of Japan residing at Kanagawa, Japan have invented
certain new and useful improvements in

FACSIMILE APPARATUS

of which the following is a specification:-

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a facsimile apparatus, and more particularly, to a facsimile apparatus that easily obtains accurate reception capacity information of each transmission destination, and performs accurate and efficient facsimile transmission of e-mail image files through a network.

2. Description of the Related Art

Conventionally, a facsimile apparatus has been used in a stand-alone state in which the apparatus operates independently, and conventional facsimile communication procedures (transmission procedures) have been set in accordance with the ITU (International Telecommunication Union)-T recommendation T.30.

In the general G3/G4 facsimile communication procedures, function exchange among G3 DIS/DCS signals or G4 CSS/RSSP signals is carried out at the time of transmission, so that the function having the highest possible communication speed that can be accepted on the receiving end can be used for transmission. The function is stored in the apparatus, and is reused for the next transmitting operations to the same receiving end.

As the performance of each apparatus has advanced and the communication networks have developed in recent years, facsimile apparatuses having functions of transmitting and receiving image

5   information to and from other apparatuses via a network such as the Internet have been produced (see Japanese Laid-Open Patent Application Nos. 2000-332940, 2001-265675, 2002-199198, 2000-183949, 2001-203847, and 2002-218152).

10   Such facsimile apparatuses that perform communications via a network utilize the ITU-T recommendation T.37 simple-mode, as disclosed in Japanese Laid-Open Patent Application No. 2002-252736.

In any of the above facsimile apparatuses,

15   however, the ITU-T recommendation T.37 simple-mode utilizing a network (the Internet) is employed. With any of those conventional facsimile apparatuses, image data (image file) transmission can be carried out via the Internet, but the function of the

20   transmission destination cannot be ascertained before the facsimile communication via the Internet. This is the problem with those conventional network facsimile apparatuses.

The ITU-T recommendation T.37 simple-mode

25   employed by the conventional facsimile apparatuses

utilizing the Internet does not include a capacity
negotiating procedure, and therefore, transmission
and reception are generally carried out with the
default parameters (A4/200 dpi or 200 × 100 dpi/MH).

5   More specifically, the facsimile apparatus
on the transmitting end cannot determine the
functions of a transmission destination apparatus.
Even if the apparatus on the receiving end has a
function that is compatible with a compression method

10   such as MMR (Modified MR) or JBIG (Joint Binary Image
Group), each transmitting operation includes a
process of compressing an image file by the MH
(modified Huffman) method, which is the default
compressing mode. This causes inconvenience in

15   facsimile communications. As transmission is always
carried out in the default compressing mode, the
amount of transmission data increases, and the load
on the network also increases. This also causes
longer communications times with Internet providers,

20   resulting in higher communications costs.

      On the other hand, the ITU-T recommendation
T.37 full-mode can provide a function of sending
delivery confirmation mail to notify a facsimile
apparatus on the transmitting end of the reception

25   capacity on the receiving end. In this case, the

facsimile apparatus on the transmitting end needs to
have a function of storing the reception capacity
information of each facsimile apparatus serving as a
transmission destination. Storing of the reception
5   capacity information can be carried out through an
operation by a user.

However, if the facsimile apparatus on the
receiving end does not show (provide) the reception
capacity information in the delivery confirmation
10   mail, the ITU-T recommendation T.37 full-mode
function of the facsimile apparatus on the
transmitting end cannot be fully utilized. In such a
case, transmission is carried out only with the
default parameters, unless a user expands the
15   settings.

SUMMARY OF THE INVENTION
A general object of the present invention is
to provide a facsimile apparatus in which the above
20   disadvantages are eliminated.

A more specific object of the present
invention is to provide a facsimile apparatus that
performs facsimile transmission to another facsimile
apparatus not having a reception capacity notifying
25   function without a user taking the trouble to carry

out a registering process, utilizing an advanced
function equivalent to the ITU-T recommendation T.37
full-mode function. Such a facsimile apparatus fully
utilizes the capacity provided therein, and increases

5   the usability.

Another specific object of the present
invention is to provide a facsimile apparatus that is
connected to a network and has an ITU-T
recommendation T.37 full-mode function for facsimile

10   transmission of an image file processed by an image
processor using parameters corresponding to a
transmission mode, at least with a delivery
confirmation request being attached to the image file,
the facsimile transmission being carried out via the

15   network. In this facsimile apparatus, a destination
information memory stores reception capacity
information of a selected transmission destination or
reception capacity information of the selected
transmission destination contained in delivery

20   confirmation mail sent from the selected transmission
destination, the reception capacity information being
associated with the mail address of the selected
transmission destination. A controller causes a
transmission mode memory to store the transmission

25   mode used for the facsimile transmission accompanied

by the delivery confirmation request. If the delivery confirmation mail from the selected transmission destination contains reception capacity information, the controller causes the destination

5   information memory to store the reception capacity information as the reception capacity information of the selected transmission destination. If the delivery confirmation mail does not contain the reception capacity information but confirms that the

10   communication has been properly completed, the controller causes the destination information memory to store the transmission mode, already stored in the transmission mode memory, as a transmission enabling mode of the selected transmission destination.

15   Achieving the usability equivalent to the ITU-T recommendation T.37 full-mode, this facsimile apparatus can readily and accurately obtain the reception capacity information of each transmission destination that does not have the function of

20   providing the reception capacity information through the delivery confirmation mail. Thus, accurate and efficient facsimile transmission of image files can be carried out via a network.

         Yet another specific object of the present

25   invention is to provide a facsimile apparatus having

a controller that causes the destination information

memory to store the transmission mode, which has

already been stored in the transmission mode memory,

as a transmission disabling mode of the selected

5   transmission destination, when the delivery

confirmation mail sent from the selected transmission

destination does not contain the reception capacity

information but confirms that the communication

failed. With this structure, facsimile transmission

10   in an unusable communication mode can be avoided, and

more accurate and efficient facsimile transmission of

image files can be carried out via a network.

Still another specific object of the present

invention is to provide a facsimile apparatus having

15   a controller that causes an image memory to keep an

image file for transmission until the delivery

confirmation mail is sent from the selected

transmission destination, when the image file that

has been processed by the image processor using

20   parameters different from default parameters is

facsimile-transmitted at least together with a

delivery confirmation request. When delivery

confirmation mail is received from the selected

transmission destination reporting that the

25   communication failed, the image processor converts

the image file kept in the image memory into an image file corresponding to the default parameters, and the converted image file is facsimile-transmitted again to the selected transmission destination. In this

5   manner, image files that have once failed to be transmitted can be resent in suitable states. Thus, more accurate and more efficient facsimile transmission of image files can be carried out via a network.

10   The above objects of the present invention are achieved by a facsimile apparatus that is connected to a network and has an ITU-T recommendation T.37 full-mode function for facsimile transmission of an image file processed by an image

15   processor using parameters corresponding to a transmission mode, at least with a delivery confirmation request being attached to the image file, the facsimile transmission being carried out via the network. This facsimile apparatus includes: a

20   destination information memory that stores reception capacity information of a selected transmission destination or reception capacity information of the selected transmission destination contained in delivery confirmation mail sent from the selected

25   transmission destination, the reception capacity

information being associated with the mail address of the selected transmission destination; a transmission mode memory that stores a transmission mode used for facsimile transmission accompanied at least by the delivery confirmation request; and a controller that causes the transmission mode memory to store the transmission mode used for the facsimile transmission with the delivery confirmation request, causes the destination information memory to store reception capacity information contained in the delivery confirmation mail sent from the selected transmission destination, the reception capacity information being stored as the reception capacity information of the selected transmission destination, and causes the destination information memory to store the transmission mode, already stored in the transmission mode memory, as a transmission enabling mode of the selected transmission destination when the delivery confirmation mail does not contain the reception capacity information but confirms that the communication has been properly completed.

With the above structure, a facsimile apparatus that is connected to a network and has an ITU-T recommendation T.37 full-mode function for facsimile-transmitting an image file processed by an

image processor using parameters corresponding to a

transmission mode is obtained. In the facsimile

transmission, at least a delivery confirmation

request is attached to the image file, and the

5   facsimile transmission is carried out via the network.

Also in the facsimile apparatus, a destination

information memory stores reception capacity

information of a selected transmission destination or

reception capacity information of the selected

10   transmission destination contained in delivery

confirmation mail sent from the selected transmission

destination, the reception capacity information being

associated with the mail address of the selected

transmission destination. A controller causes a

15   transmission mode memory to store the transmission

mode used for the facsimile transmission accompanied

by the delivery confirmation request. If the

delivery confirmation mail from the transmission

destination contains reception capacity information,

20   the controller causes the destination information

memory to store the reception capacity information as

the reception capacity information of the

transmission destination. If the delivery

confirmation mail does not contain the reception

25   capacity information but confirms that the

communication has been properly completed, the controller causes the destination information memory to store the transmission mode, already stored in the transmission mode memory, as a transmission enabling

5   mode of the selected transmission destination. Achieving usability equivalent to the ITU-T recommendation T.37 full-mode, this facsimile apparatus can readily and accurately obtain the reception capacity information of each transmission

10   destination that does not have the function of providing the reception capacity information through the delivery confirmation mail. Thus, accurate and efficient facsimile transmission of image files can be carried out via a network.

15   In the above facsimile apparatus, the controller may cause the destination information memory to store the transmission mode, which has already been stored in the transmission mode memory, as a transmission disabling mode of the selected

20   transmission destination, when the delivery confirmation mail sent from the selected transmission destination does not contain the reception capacity information but confirms that the communication failed.

25   With the above structure, when the delivery

confirmation mail sent from the selected transmission
destination does not contain the reception capacity
information but confirms that the communication
failed, the controller causes the destination

5   information memory to store the transmission mode,
which has already been stored in the transmission
mode memory, as a transmission disabling mode of the
selected transmission destination. With this
structure, facsimile transmission in an unusable

10 communication mode can be avoided, and more accurate
and efficient facsimile transmission of image files
can be carried out via a network.

        The above facsimile apparatus may further
include an image memory that stores image files for

15 transmission. In this facsimile apparatus, when an
image file that has been processed by the image
processor using parameters different from default
parameters is facsimile-transmitted at least together
with the delivery confirmation request, the

20 controller keeps the image file in the image memory
until the delivery confirmation mail is sent from the
selected transmission destination. When delivery
confirmation mail is sent from the selected
transmission destination reporting that the

25 communication failed, the image processor converts

the image file kept in the image memory into an image
file corresponding to the default parameters, and the
converted image file is facsimile-transmitted again
to the selected transmission destination.

5   With the above structure, the controller
causes the image memory to keep an image file for
transmission until the delivery confirmation mail is
sent from the selected transmission destination, when
the image file that has been processed by the image
10   processor using parameters different from default
parameters is facsimile-transmitted at least together
with a delivery confirmation request. When delivery
confirmation mail is received from the selected
transmission destination reporting that the
15   communication failed, the image processor converts
the image file kept in the image memory into an image
file corresponding to the default parameters, and the
converted image file is facsimile-transmitted again
to the selected transmission destination. In this
20   manner, image files that have once failed to be
transmitted can be resent in suitable states. Thus,
more accurate and more efficient facsimile
transmission of image files can be carried out via a
network.

25   The above and other objects, features, and

advantages of the present invention will become more apparent from the following detailed description taken in conjunction with the accompanying drawings.

5 BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a block diagram illustrating the structure of a facsimile apparatus in accordance with one embodiment of the present invention;

Fig. 2 is a block diagram illustrating the

10 functions of the facsimile apparatus shown in Fig. 1; and

Fig. 3 is a flowchart showing a communication controlling operation involving a destination information managing process to be

15 performed by the facsimile apparatus shown in Fig. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following is a description of embodiments of the present invention, with reference

20 to the accompanying drawings.

Figs. 1 through 3 illustrate one embodiment of a facsimile apparatus in accordance with the present invention. Fig. 1 is a block diagram illustrating the structure of a facsimile apparatus 1

25 in accordance with the present invention.

In Fig. 1, the facsimile apparatus 1 includes a main controlling unit 2, a scanner 3, a plotter 4, an operations unit 5, a display unit 6, a memory unit 7, a communication controlling unit 8, a

5 DCR (coding/decoding) 9, and a LAN communication controlling unit 10. These components are connected to each another by a bus 11.

The scanner 3 may be a line image sensor equipped with a CCD (Charge Coupled Device), for

10 example, and includes an ADF. Documents are set on the ADF, which feeds the documents, one by one, to the document reading position of the scanner 3. The scanner 3 scans each document transported from the ADF, and reads in the image of each document with a

15 predetermined resolution.

The plotter 4 may be a thermal recording device, an electrophotographic recording device, or an inkjet recording device, for example. The plotter 4 records received images and the image of each

20 document read by the scanner 3 on recording sheets. The plotter 4 also records various reports on recording sheets.

The operations unit 5 includes operation keys such as a numeric keypad and a start key,

25 function keys, and menu keys. The operations unit 5

further includes a display such as a liquid crystal

display, for example. Through the operation keys of

the operations unit 5, telephone numbers and mail

addresses of transmission destinations are

5 transmitted, various information items such as the

reception capacities of transmission destinations are

input, and various commands and instructions are also

input. The contents of instructions and operations

input through the operation keys and the menu keys,

10 and various information items sent from the facsimile

apparatus 1 to operators are displayed on the display.

The memory unit 7 (a destination information

memory, a transmission mode memory, and an image

memory) may be a RAM (Random Access Memory) or a hard

15 disk. The memory unit 7 stores image data such as

transmission image information and reception image

information, dial information such as the telephone

numbers of recorded transmission destinations, the

telephone numbers and the names of transmission

20 destinations associated with one-touch dialing and

abbreviated dialing, own information such as the

telephone number and the name of the apparatus, read

density information, and record density information.

The memory unit 7 also stores the telephone numbers

25 of transmission destinations for facsimile

communications through a network (the Internet) in
association with the mail addresses of the
transmission destinations. The memory unit 7 further
stores the transmission destinations associated with
5   destination information of the transmission
destination, such as reception capacity information,
transmission modes, transmission enabling modes, and
transmission disabling modes. The destination
information can be added to, altered, or deleted from,
10   through a key operation using the operations unit 5.

     The communication controlling unit 8 is
connected to a public line or a private line such as
the PSTN (Public Switched Telephone Network) or the
ISDN (Integrated Services Digital Network). The
15   communication controlling unit 8 performs automatic
call and answer operations, and modulation and
demodulation through a built-in data modem.

     The DCR 9 (an image processor) encodes image
data by various encoding methods, such as the MR
20   (Modified Relative element address designate)
encoding method, the MMR (Modified MR) encoding
method, the standard MH method, and the JBIG method.
The DCR 9 also decodes the encoded image data.

     The LAN communication controlling unit 10
25   may be connected to a network such as a LAN (Local

Area Network) that is connected to a public line.
Alternatively, the LAN communication controlling unit
10 may be connected directly to a public line such as
the PSTN or ISDN. The LAN communication controlling

5 unit 10 controls protocols such as TCP/IP, PPP (Point
to Point Protocol), and SMTP (Simple Mail Transfer
Protocol)/POP (Post Office Protocol), thereby
receiving electronic mail transmitted through the LAN
or a public line, and sending electronic mail to

10 transmission destinations.

More specifically, the LAN communication
controlling unit 10 has a T.37 full-mode
communication function. Accordingly, the LAN
communication controlling unit 10 is capable of

15 performing transmission together with a delivery
confirmation request, and receives delivery
confirmation mail from the transmission destination
in response to the delivery confirmation request.
The facsimile apparatus on the receiving end can add

20 reception result information and the reception
capacity information (reception function information)
of the receiving end to the delivery confirmation
mail. With the reception result information, the
facsimile apparatus on the receiving end notifies the

25 transmitting end whether facsimile reception has been

properly completed. The reception result information
serves as transmission result information on the
transmitting end.

The main controlling unit 2 (a controller)
5 includes a ROM (Read Only Memory), a RAM, and a CPU
(Central Processing Unit). The ROM stores various
programs such as a basic operation program of the
facsimile apparatus 1 and a destination information
managing program (described later), and various data
10 such as system data that are essential for executing
each program. In accordance with the programs stored
in the ROM, the CPU of the main controlling unit 2
utilizes the RAM as a work memory to control each
component of the facsimile apparatus 1. In this
15 manner, the main controlling unit 2 performs basic
operations of the facsimile apparatus 1, and also
performs a destination information managing operation
that is described below.

The facsimile apparatus 1 has functions as
20 shown in Fig. 2. More specifically, the facsimile
apparatus 1 includes a controlling function 21, an
image storing function 22, a destination information
storing function 23, a transmission mode storing
function 24, an image processing function 25, a
25 network facsimile transmitting/receiving function 26,

a transmission mode determining function 27, and a

response mail reading function 28. Using the ITU-T

recommendation T.37 full-mode, the facsimile

apparatus 1 transmits image data in a suitable

5   transmission mode for the capacity of the

transmission destination.

The controlling function 21, the

transmission mode determining function 27, and the

response mail reading function 28 are embodied by the

10   main controlling unit 2. The image storing function

22, the destination information storing function 23,

and the transmission mode storing function 24 are

embodied by the memory unit 7. The image processing

function 25 is embodied by the DCR 9. The network

15   facsimile transmitting/receiving function 26 is

embodied by the LAN communication controlling unit 10.

More specifically, the image storing

function 22 stores transmission image data as image

files, under the control of the controlling function

20   21. The destination information storing function 23

stores the reception capacity information of

transmission destinations associated with the mail

addresses of the transmission destinations. The

reception capacity information of each transmission

25   destination is set through the operations unit 5 or

received through the delivery confirmation mail from
each transmission destination. The destination
information storing function 23 also stores the
transmission enabling mode of each transmission

5   destination.

The image processing function 25 performs
image processing on the image data in the
transmission files under the control of the
controlling function 21, using parameters in

10 accordance with the transmission mode.

The network facsimile transmitting/receiving
function 26 transmits and receives through a network
the image files, which have been processed by the
image processing function 25 with the parameters

15 according to the transmission mode, under the control
of the controlling function 21. The network
facsimile transmitting/receiving function 26 also has
the ITU-T recommendation T.37 full-mode function that
carries out facsimile transmission and reception

20 through a network, with delivery confirmation
requests to the transmission destinations being added
to the transmission.

The transmission mode determining function
27 determines the transmission mode for facsimile

25 transmission under the control of the controlling

function 21.   The response mail reading function 28
decodes the delivery confirmation mail received by
the network facsimile transmitting/receiving function
26, and notifies the controlling function 21 of the
5   contents of the delivery confirmation mail.

The transmission mode storing function 24
stores the transmission mode, under the control of
the controlling function 21, at the time of facsimile
transmission accompanied by a delivery confirmation
10   request.

The controlling function 21 stores the
transmission mode in the mode storing function 24 at
the time of facsimile transmission accompanied by a
delivery confirmation request.   After the reception
15   capacity information is sent from the transmission
destination through the delivery confirmation mail,
and the response mail reading function 28 decodes the
reception capacity information, the reception
capacity information is stored as the reception
20   capacity information of the transmission destination
in the destination information storing function 23.
Even if the reception capacity is not included in the
delivery confirmation mail, the response mail reading
function 29 reads from the delivery confirmation mail
25   whether the communication went well.   If the

communication result is good, the response mail

reading function 28 sets the transmission mode that

has already been stored in the transmission mode

storing function 24 as the transmission enabling mode

5   of the transmission destination in the destination

information storing function 23. In a case where the

reception capacity information is not contained in

the delivery confirmation mail from the transmission

destination, and the response mail reading function

10   28 reads from the delivery confirmation mail that the

communication failed, the controlling function 21

sets the transmission mode that has already been

stored in the transmission mode storing function 24

as the transmission disabling mode of the

15   transmission destination in the destination

information storing function 23. Further, each time

facsimile transmission accompanied by a delivery

confirmation request is carried out, the controlling

function 21 stores the image file of the facsimile

20   transmission in the image storing function 22. In a

case where an image file that has been processed by

the image processing function 25 with parameters

different from the default parameters is transmitted

in the facsimile transmission, the controlling

25   function 21 keeps the image file in the image storing

function 22 until delivery confirmation mail is
received from the transmission destination. When
delivery confirmation mail indicating that the
communication result is not good is received from the
5   transmission destination, the image processing
function 25 converts the image data stored in the
image storing function 22 into an image corresponding
to the default parameters. The network facsimile
transmitting/receiving function 26 then facsimile-
10 transmits the converted image again to the
transmission destination.

Referring now to Fig. 3, the operation of
this embodiment is next described. The facsimile
apparatus 1 is characterized by transmitting image
15 data in a suitable mode for the reading mode of the
original document and the reception capacity of the
transmission destination, utilizing the ITU-T
recommendation T.37 full-mode.

In the facsimile apparatus 1, one of the
20 transmission destinations having its mail addresses
stored in the destination information storing
function 23 of the memory unit 7 is first selected
through a one-touch button or the like on the
operations unit 5, and transmission to the selected
25 transmission destination is carried out by the

operations unit 5 (step S101). The transmission mode

determining function 27 of the main controlling unit

2 then determines the document reading mode used by

the scanner 3, which is the transmission mode. The

5   determined transmission mode is stored in the

transmission mode storing function 24 of the memory

unit 7. The main controlling unit 2 then determines

whether the reading mode (transmission mode) is the

reading mode (transmission mode) corresponding to the

10   default parameters (step S102). If the reading mode

is determined to be the transmission mode

corresponding to the default parameters, the image

file of the image data read from the document with

the scanner 3 is stored in the image storing function

15   22 of the memory unit 7, and the image file is then

transmitted through a regular facsimile transmitting

process (step S103). After the facsimile

transmission is completed, the image file is deleted

from the memory unit 7 (step S109), and the operation

20   comes to an end.

If the transmission mode is determined not

to be the transmission mode corresponding to the

default parameters in step S102, the main controlling

unit 2 determines whether the transmission mode is

25   set as a transmission disabling mode of the selected

transmission destination stored in the destination

information storing function 23 (step S104). If the

transmission mode is a transmission enabling

(allowing) mode, the regular transmission is carried

5 out, and the image file is deleted from the memory

unit 7 (step S109). The operation then comes to an

end.

If the transmission mode is set as neither a

transmission disabling mode nor a transmission

10 enabling mode of the selected transmission

destination stored in the destination information

storing function 23 of the memory unit 7 in step S104,

the main controlling unit 2 stores the image file

read from the document with the scanner 3 in the

15 image storing function 22 of the memory unit 7, and

adds a delivery confirmation request to the image

file. The LAN communication controlling unit 10 then

facsimile-transmits the image file accompanied by the

delivery confirmation request to the selected

20 transmission destination (step S105).

After the facsimile transmission accompanied

by the delivery confirmation request is completed,

the main controlling unit 2 waits for the LAN

communication controlling unit 10 to receive delivery

25 confirmation mail from the selected transmission

destination (step S106). The main controlling unit 2
then determines whether the transmission result is
good based on the read result from the response mail
reading function 28 (step S107).

5   If the transmission result is determined to
be good in step S107, the main controlling unit 2
sets the transmission mode, which has already been
stored in the transmission mode storing function 24
of the memory unit 7, as the transmission enabling
10   mode for the destination information of the selected
transmission destination stored in the destination
information storing function 23 of the memory unit 7
(step S108). The image file is then deleted from the
memory unit 7 (step S109), and the operation comes to
15   an end.

          If the transmission result is not good in
step S107, the main controlling unit 2 sets the
transmission mode, which has already been stored in
the transmission mode storing function 24 of the
20   memory unit 7, as the transmission disabling mode for
the destination information of the selected
transmission destination stored in the destination
information storing function 23 of the memory unit 7
(step S110). The DCR 9 then converts the image file,
25   which has been stored in the image storing function

22 of the memory unit 7 and is to be transmitted to the selected transmission destination, into an image to be transmitted in the transmission mode corresponding to the optimum parameters for the

5   selected transmission destination, such as the transmission mode corresponding to the default parameters (step S111).

After the image converting process is completed, the main controlling unit 2 returns to

10   step S102, and repeats the above procedures. When facsimile transmission is completed properly, the image file that has been transmitted is deleted from the image storing function 22 of the memory unit 7 (step S109). Then the operation then comes to an end.

15   As described so far, the facsimile apparatus 1 of this embodiment is connected to a network, and has the ITU-T recommendation T.37 full-mode function. The DCR 8 performs image processing on each image file to be transmitted, using parameters

20   corresponding to the transmission mode. A delivery confirmation request is added to each processed image file, the image file accompanied by the delivery confirmation request is facsimile-transmitted from the LAN communication controlling unit 10 to a

25   transmission destination through the network. While

doing so, the facsimile apparatus 1 associates the
mail address of the transmission destination with the
reception capacity information of the transmission
destination set by the operation unit 5 or the
5   reception capacity information of the transmission
destination provided through delivery confirmation
mail sent from the transmission destination in reply
to a delivery confirmation request, and then stores
the reception capacity information associated with
10   the mail address in the destination information
storing function 23 of the memory unit 7. At the
time of facsimile transmission accompanied by a
delivery confirmation request, the main controlling
unit 2 stores the transmission mode in the
15   transmission mode storing function 24 of the memory
unit 7. If reception capacity information of the
transmission destination has been sent through
delivery confirmation mail from the transmission
destination, the main controlling unit 2 stores the
20   reception capacity information as the reception
capacity information of the transmission destination
in the destination information storing function 23 of
the memory unit 7. If reception capacity has not
been sent through the delivery confirmation mail, the
25   main controlling unit 2 stores the transmission mode,

which has already been stored in the transmission

mode storing function 24 of the memory unit 7, as a

transmission enabling mode of the transmission

destination in the destination information storing

5   function 23 of the memory unit 7, after the delivery

confirmation mail confirms that the communication

result is good.

Even in a case where the receiving end does

not have a function of notifying the reception

10   capacity information through the delivery

confirmation mail, it is possible to achieve

usability equivalent to the ITU-T recommendation T.37

full-mode, and to obtain the reception capacity

information of the transmission destination with ease

15   and accuracy. Thus, accurate and efficient facsimile

transmission of image files can be carried out

through a network.

Further, in a case where reception capacity

information has not been provided through delivery

20   confirmation mail from the transmission destination

after facsimile transmission accompanied by a

delivery confirmation request, and where the delivery

confirmation mail confirms that the communication

failed, the transmission mode that has been stored in

25   the transmission mode storing function 24 of the

memory unit 7 is stored as a transmission disabling
mode of the transmission destination in the
destination information storing function 23 of the
memory unit 7.

5   In this manner, inadvertent facsimile
transmission in an unusable communication mode can be
prevented, and more accurate and efficient facsimile
transmission of image files can be carried out
through a network.

10   Further, when an image file that has been
processed by the DCR 9 using parameters different
from the default parameters is facsimile-transmitted
together with a delivery confirmation request, the
main controlling unit 2 keeps the image file in the
15   image storing function 22 of the memory unit 7 until
delivery confirmation mail from the transmission
destination is received. After receiving delivery
confirmation mail from the transmission destination
confirming that the communication failed, the image
20   file stored in the image storing function 22 of the
memory unit 7 is converted into an image file
corresponding to the default parameters by the DCR 9.
The converted image file is then facsimile-
transmitted again to the transmission destination.

25   In this manner, image files that have once

failed to be transmitted can be resent in preferred conditions. Thus, more accurate and efficient facsimile transmission of image files can be carried out through a network.

5   It should be noted that the present invention is not limited to the embodiments specifically disclosed above, but other variations and modifications may be made without departing from the scope of the present invention.

10   This patent application is based on Japanese Priority Patent Application No. 2003-116423, filed on April 22, 2003, the entire contents of which are hereby incorporated by reference.